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EXAMINER

AMINI, JAVID A

ART UNIT

PAPER NUMBER

2672

DATE MAILED: 03/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/778,484

Applicant(s)

EDGE ET AL.

Examiner

Javid A Amini

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☒ Claim(s) 1-36 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

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Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 13, 22 and 35 rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicant is claiming an estimating a gamma and gray balance, but the range of values of gamma and gray balance are not specified clearly in specification. The estimation program should be included in this application. Since the invention is about "color image display accuracy using comparison of complex shapes to reference background" the following questions need to be responded: What are the differences between "the range of values of gamma" and "gray balance" and "system or display"?

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 12, 15, 20, 23 and 35 rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: The non-rectangular shape limitation was considered to be unnecessary since the specification, as filed, did not describe the tapered shape as essential or critical to the operation or patentability of the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims rejected under 35 U.S.C. 103(a) as being unpatentable over ***.

Claims 1-12, 14-21, 23-34 and 36 rejected under 35 U.S.C. 103(a) as being unpatentable over Hill et al., and further in view of Engeldrum et al.

1. Claim 1.

“A method comprising: displaying a sequence of dark elements against a black background, wherein each of the dark elements has a different gray value and a non-rectangular shape; estimating a blackpoint for a display device based on one of the dark elements selected by the user that is visible and appears to most closely match the background”. Hill et al. does not explicitly specify a sequence of dark elements, however, Engeldrum et al. illustrates in Figs. 2-6 a sequence of dark elements against a black background, wherein each of the dark elements has a different gray value. Engeldrum et al. Teaches in (col. 3, lines 1-25) see Fig. 3, the color being displayed is determined by the user selecting which continuous tone box, e.g., 304, most closely matches the brightness of striped box 302. Instructions 310 direct the user to make this choice by placing the display cursor over the matching continuous tone box, e.g., 304, and then clicking the mouse button.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Engeldrum into Hill in order to improved methods and

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apparatus for displaying other graphics, geometric shapes, e.g., circles, squares, etc., and captured images such as photographs, accurately and clearly.

2. Claim 2.

The method of claim 1, further comprising: modifying a color image for the display device based on the estimated blackpoint. Hill teaches in paragraph 0193 if in step 994 it is determined that the color of the current pixel falls outside the pre-selected range of acceptable colors, indicating the presence of a distracting color artifact, operation proceeds to step 995 wherein the color of the current pixel is adjusted towards the range of acceptable colors. This may involve modifying one or more of the R, G, B luminance intensity values associated with the current pixel, e.g., by adding or subtracting from the existing values to move the individual value closer to those found in the pre-selected range of acceptable colors. Thus, at the end of step 995, the color of the current pixel is closer to being within, or falls within, the pre-selected acceptable range of colors corresponding to a mix of foreground and background colors. Once the luminance intensity values of the current pixel are updated in step 995, processing returns, via return step 984, to the place from which the sub-routine 970' was called.

3. Claim 3.

"The method of claim 2, further comprising delivering the modified color image via a computer network for display on the display device". Hill teaches in paragraph 0088, Fig. 5, when used in a LAN, the personal computer 520 may be connected to the LAN 551 through a network interface adapter (or "NIC") 553. When used in a WAN, such as the Internet, the personal

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computer 520 may include a modem 554 or other means for establishing communications over the wide area network 552.

4. Claim 4.

“The method of claim 2, wherein the display device is associated with a client on the computer network, the method further comprising: transmitting information representative of the estimated blackpoint from the client to a server on the computer network; modifying the color image via the server based on the information; and delivering the modified color image from the server to the client for display on the display device”. Hill illustrates the logical connections depicted in Fig. 5 include a local area network (LAN) 551 and a wide area network (WAN) 552, an intranet and the Internet.

5. Claim 5.

“The method of claim 4, further comprising: storing the information in a web cookie; transmitting the web cookie from the client to the server; and modifying the color image via the server based on the contents of the web cookie”. The step is inherent because a block of data (cookie) that a server returns to a client in response to a request from the client, therefore when two computers are connected via NIC a block of data always communicating between client and the server.

6. Claim 6.

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“The method of claim 2, further comprising: generating a color profile based on the estimated blackpoint; and modifying the color image based on the color profile”. Hill teaches in paragraph 0193 if in step 994 it is determined that the color of the current pixel falls outside the pre-selected range of acceptable colors, indicating the presence of a distracting color artifact, operation proceeds to step 995 wherein the color of the current pixel is adjusted towards the range of acceptable colors. This may involve modifying one or more of the R, G, B luminance intensity values associated with the current pixel, e.g., by adding or subtracting from the existing values to move the individual value closer to those found in the pre-selected range of acceptable colors. Thus, at the end of step 995, the color of the current pixel is closer to being within, or falls within, the pre-selected acceptable range of colors corresponding to a mix of foreground and background colors. Once the luminance intensity values of the current pixel are updated in step 995, processing returns, via return step 984, to the place from which the sub-routine 970 was called.

7. Claim 7.

“The method of claim 6, wherein the display device is associated with a client on the computer network, the method further comprising: transmitting the color profile from the client to a server on the computer network; modifying the color image via the server based on the color profile; and delivering the modified color image from the server to the client for display on the display device”. The step is inherent because the user is considered as a client site, and the user requests to modified the color image from the client to a server on the computer network. See also rejection of claim 4.

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8. Claim 8.

“The method of claim 7, further comprising: storing the color profile in a web cookie; transmitting the web cookie from the client to the server; and modifying the color image via the server based on the contents of the web cookie”. See rejection of claim 5.

9. Claim 9.

“The method of claim 1, further comprising: displaying dark elements against the black background for each of the color channels of the display device; selecting one of the dark elements for each of the color channels that is visible and appears to most closely match the black background; and estimating channel-specific blackpoints for the color channels of the display device based on the selected dark elements”. See rejection of claim 2.

10. Claim 10.

“The method of claim 9, wherein the color channels are red, green, and blue color channels”.

Hill teaches in paragraph 0006 In color displays, the intensity of the light emitted corresponding to the additive primary colors, red, green and blue, can be varied to get the appearance of almost any desired color pixel. Adding no color, i.e., emitting no light produces a black pixel. Adding 100 percent of all three colors results in white.

11. Claim 11.

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“The method of claim 1, wherein the display device is a cathode ray tube monitor or a flat panel display”. Hill teaches in paragraph 0008 Portable personal computers 100 tend to use liquid crystal displays (LCD) or other flat panel display devices 102, as opposed to CRT displays.

12. Claim 12.

“The method of claim 1, wherein the non-rectangular shapes includes a numeral or a letter”. The step is inherent because since the toolbar is involved color adjustment, a precise color adjustment sometimes represented by numeral or a letter in medical environments, different applications require just a toolbar for modifying a color images.

13. Claim 14.

“The method of claim 1, further comprising guiding the client through the process of obtaining the estimated blackpoints, gamma, and gray balance by delivering a series of instructional web pages to the client”. See rejection of claims 4 and 5.

14. Claim 15.

“A system comprising: a web server residing on a computer network, the web server transmitting web pages to remote clients residing on the computer network; a color image server residing on the computer network, the color image server transmitting color images referenced by the web pages to the clients for display on display devices associated with the clients; a color profile server residing on the computer network, the color profile server guiding the clients through a color profiling process to obtain information characterizing the color responses of the display

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devices associated with the clients, wherein the information includes a blackpoint estimate for the color channels of the display devices, and the color profiling process includes: displaying dark elements against a black background, wherein each of the dark elements has a different gray value and a non-rectangular shape, selecting one of the dark elements that is visible and appears to most closely match the black background, and estimating the blackpoint for a display device based on the selected dark element; and one or more color correction modules that modify the color images transmitted by the color image server based on the information to improve the accuracy of the color images when displayed on the respective display device". Hill teaches in paragraph 0088, Fig. 5, when used in a LAN, the personal computer 520 may be connected to the LAN 551 through a network interface adapter (or "NIC") 553. When used in a WAN, such as the Internet, the personal computer 520 may include a modem 554 or other means for establishing communications over the wide area network 552. Hill et al. does not explicitly specify a sequence of dark elements, however, Engeldrum et al. illustrates in Figs. 2-6 a sequence of dark elements against a black background, wherein each of the dark elements has a different gray value. Engeldrum et al. Teaches in (col. 3, lines 1-25) see Fig. 3, the color being displayed is determined by the user selecting which continuous tone box, e.g., 304, most closely matches the brightness of striped box 302. Instructions 310 direct the user to make this choice by placing the display cursor over the matching continuous tone box, e.g., 304, and then clicking the mouse button. It is not clear the essential and critical point to this invention to have a non-rectangular shape!

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Engeldrum into Hill in order to improved methods and

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apparatus for displaying other graphics, geometric shapes, e.g., circles, squares, etc., and captured images such as photographs, accurately and clearly.

15. Claim 16.

“The system of claim 15, wherein the color image server stores the information to the client in a web cookie, the client transmits the web cookie from the client to the server, and the color image server modifies the color image via the server based on the contents of the web cookie”.

The step is inherent because a block of data (cookie) that a server returns to a client in response to a request from the client, therefore when two computers are connected via NIC a block of data always communicating between client and the server.

16. Claim 17.

“The system of claim 15, wherein the color profiling process includes: displaying dark elements against the black background for each of the color channels of the display device; selecting one of the dark elements for each of the color channels that is visible and appears to most closely match the black background; and estimating channel-specific blackpoints for the color channels of the display device based on the selected dark elements”. See rejection of claim 9.

17. Claim 18.

“The system of claim 17, wherein the color channels are red, green, and blue color channels”.

See rejection of claim 10.

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18. Claim 19.

“The system of claim 15, wherein the display device is a cathode ray tube monitor or a flat panel display”. See rejection of claim 11.

19. Claim 20.

“The system of claim 15, wherein the non-rectangular shapes includes a numeral or a letter”. See rejection of claim 12.

20. Claim 21.

“The system of claim 15, wherein the color profiling process includes estimating a gamma and gray balance for the display device, and adding the gamma and gray balance to the information”. See rejection of claims 4 and 5.

21. Claim 23.

“A computer readable medium containing program code that upon execution by a processor: displays dark elements against a background, wherein each of the dark elements has a different gray value and a non-rectangular shape; estimates a blackpoint for a display device based on one of the dark elements selected by the user that is visible and appears to most closely match the background”. Hill teaches in paragraph 0088, Fig. 5, when used in a LAN, the personal computer 520 may be connected to the LAN 551 through a network interface adapter (or "NIC") 553. When used in a WAN, such as the Internet, the personal computer 520 may include a modem 554 or other means for establishing communications over the wide area network 552. Hill et al.

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dose not explicitly specify a sequence of dark elements, however, Engeldrum et al. illustrates in Figs. 2-6 a sequence of dark elements against a black background, wherein each of the dark elements has a different gray value. Engeldrum et al. Teaches in (col. 3, lines 1-25) see Fig. 3, the color being displayed is determined by the user selecting which continuous tone box, e.g., 304, most closely matches the brightness of striped box 302. Instructions 310 direct the user to make this choice by placing the display cursor over the matching continuous tone box, e.g., 304, and then clicking the mouse button. It is not clear the essential and critical point to this invention to have a non-rectangular shape!

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Engeldrum into Hill in order to improved methods and apparatus for displaying other graphics, geometric shapes, e.g., circles, squares, etc., and captured images such as photographs, accurately and clearly.

22. Claim 24.

“The computer readable medium of claim 23, wherein the code is configured to modify a color image for the display device based on the estimated blackpoint”. See rejection of claim 2.

23. Claim 25.

“The computer readable medium of claim 24, wherein the code is configured to deliver the modified color image via a computer network for display on the display device”. See rejection of claim 3.

24. Claim 26.

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“The computer readable medium of claim 24, wherein the display device is associated with a client on the computer network, and the code is configured to: transmit information representative of the estimated blackpoint from the client to a server on the computer network; modify the color image via the server based on the information; and deliver the modified color image from the server to the client for display on the display device”. See rejection of claim 4.

25. Claim 27.

“The computer readable medium of claim 26, wherein the code is configured to: store the information in a web cookie; transmit the web cookie from the client to the server; and modify the color image via the server based on the contents of the web cookie”. See rejection of claim 5

26. Claim 28.

“The computer readable medium of claim 23, wherein the code is configured to: generate a color profile based on the estimated blackpoint; and modify the color image based on the color profile”. See rejection of claim 6.

27. Claim 29.

“The computer readable medium of claim 28, wherein the display device is associated with a client on the computer network, and the code is configured to: transmit the color profile from the client to a server on the computer network; modify the color image via the server based on the color profile; and deliver the modified color image from the server to the client for display on the display device”. See rejection of claim 7.

28. Claim 30.

“The computer readable medium of claim 29 wherein the code is configured to: store the color profile in a web cookie; transmit the web cookie from the client to the server; and modify the color image via the server based on the contents of the web cookie”. See rejection of claim 8.

29. Claim 31.

“The computer readable medium of claim 23, wherein the code is configured to: display dark elements against the black background for each of the color channels of the display device; select one of the dark elements for each of the color channels that is visible and appears to most closely match the black background; and estimate channel-specific blackpoints for the color channels of the display device based on the selected dark elements”. See rejection of claim 9.

30. Claim 32.

“The computer readable medium of claim 31, wherein the color channels are red, green, and blue color channels”. See rejection of claim 10.

31. Claim 33.

“The computer readable medium of claim 23, wherein the display device is a cathode ray tube monitor or a flat panel display”. See rejection of claim 11.

32. Claim 34.

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“The computer readable medium of claim 23, wherein the non-rectangular shapes include a numeral or a letter”. See rejection of claim 12.

33. Claim 36.

“The computer readable medium of claim 23 wherein the code is configured to guide the client through the process of obtaining the estimated blackpoints, gamma, and gray balance by delivering a series of instructional web pages to the client”. See rejection of claim 14.

Claim Objections

34. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

35. Claims 24-37 been renumbered 23-36, and referred claims number been renumbered 24 to 23, 25 to 24, 27 to 26, 29 to 28, 30 to 29 and 32 to 31. **Misnumbered shown by underlining:**
Claim 24.

“The computer readable medium of claim 24 23, wherein the code is configured to modify a color image for the display device based on the estimated blackpoint”.

Claim 25.

The computer readable medium of claim 25 24, wherein the code is configured to deliver the modified color image via a computer network for display on the display device.

Claim 26.

The computer readable medium of claim 25 24, wherein the display device is associated with a client on the computer network, and the code is configured to: transmit information representative of the estimated blackpoint from the client to a server on the computer network; modify the color image via the server based on the information; and deliver the modified color image from the server to the client for display on the display device.

Claim 27.

The computer readable medium of claim 27 26, wherein the code is configured to: store the information in a web cookie; transmit the web cookie from the client to the server; and modify the color image via the server based on the contents of the web cookie.

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Claim 28.

The computer readable medium of claim 24 23, wherein the code is configured to: generate a color profile based on the estimated blackpoint; and modify the color image based on the color profile.

Claim 29.

The computer readable medium of claim 29 28, wherein the display device is associated with a client on the computer network, and the code is configured to: transmit the color profile from the client to a server on the computer network; modify the color image via the server based on the color profile; and deliver the modified color image from the server to the client for display on the display device.

Claim 30.

The computer readable medium of claim 30 29, wherein the code is configured to: store the color profile in a web cookie; transmit the web cookie from the client to the server; and modify the color image via the server based on the contents of the web cookie.

Claim 31.

The computer readable medium of claim 24 23, wherein the code is configured to: display dark elements against the black background for each of the color channels of the display device; select one of the dark elements for each of the color channels that is visible and appears to most closely match the black background; and estimate channel-specific blackpoints for the color channels of the display device based on the selected dark elements.

Claim 32.

The computer readable medium of claim 32 31, wherein the color channels are red, green, and blue color channels.

Claim 33.

The computer readable medium of claim 24 23, wherein the display device is a cathode ray tube monitor or a flat panel display.

Claim 34.

The computer readable medium of claim 24 23, wherein the non-rectangular shapes include a numeral or a letter.

Claim 35.

The computer readable medium of claim 24 23, wherein the code is configured to: estimate a gamma and gray balance for the display device; generate a color profile for the display device based on the estimated blackpoints, the gamma, and the gray balance; and modify the color image for the display device using the color profile.

Claim 36.

The computer readable medium of claim 24 23 wherein the code is configured to guide the client through the process of obtaining the estimated blackpoints, gamma, and gray balance by delivering a series of instructional web pages to the client.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Javid A Amini whose telephone number is 703-605-4248. The examiner can normally be reached on 8-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on 703-305-4713. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-8705 for regular communications and 703-746-8705 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.

Javid A Amini
Examiner
Art Unit 2672

Javid Amini
March 7, 2003

JB



MICHAEL RAZAVI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600